

TITLE

POLYMERIC PHOSPHITE COMPOSITION AND HYDROCYANATION OF
UNSATURATED ORGANIC COMPOUNDS AND THE ISOMERIZATION OF
UNSATURATED NITRILES

ABSTRACT

5 A polymeric composition, a process for producing the composition, and a
process for using the composition in, for example, hydrocyanation or
isomerization are disclosed. The composition comprises repeat units derived from
(1) a carbonyl compound, a monomer, and phosphorochloridite; (2) phosphorus
10 trichloride, a polyhydric alcohol, and an aromatic diol; or (3) combinations of (1)
and (2) in which the monomer can be a polyhydric alcohol, an amine,
combinations thereof. The composition can further comprise a Group VIII metal
and optionally a Lewis acid. The composition can be produced by (1) contacting a
carbonyl compound with the monomer to produce an intermediate and contacting
15 the intermediate with phosphorochloridite; (2) contacting phosphorus trichloride
with a second polyhydric alcohol under a condition sufficient to produce a
phosphorus-containing polymer and contacting the phosphorus-containing
polymer with an aromatic diol; or (3) contacting an N,N-dialkyl
dichlorophosphoramidite with a second polyhydric alcohol to produce a polymer
20 phosphoramidite, contacting the polymer phosphoramidite with an acid such as
HCl to produce the phosphorus-containing polymer, which is then contacted with
an aromatic diol. The composition can be used as catalyst, for example, for
converting an unsaturated organic compound to a nitrile and isomerizing a nitrile.

CJS/dmm